

2055 Rev. C
DMS

ISSUE DATE: 6-1-83

MATERIAL SAFETY DATA SHEET

To the Purchaser: This MSDS contains important environmental, health and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of this MSDS should be given to the buyer.

MANUFACTURER'S NAME
Ferro Corporation, Composites DivisionEMERGENCY PHONE NO.
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SECTION 1

CHEMICAL NAME & SYNONYMS

Phenol-Formaldehyde Prepreg/Graphite

TRADE NAME & SYNONYMS

CPH-2207/Graphite

CHEMICAL FAMILY

CAS NUMBER

Phenolic Resin

9003-35-4

FORMULA

 $(C_6H_6O \cdot CH_2O)_X$

SECTION II

OSHA POTENTIAL HAZARDOUS SUBSTANCE
IDENTIFIED WITH AN: (HAZ) BEFORE THE
NAME

COMPOSITION	%	SPEC.	LD ₅₀		LC ₅₀	
			ORAL	DERMAL	CONC.	HOURS
(HAZ) Phenol-Formaldehyde Resin	30-50		See Section V			
Polymer						
(HAZ) Graphite Fiber	50-70		Not Determined.			

ADDITIONAL INFORMATION

SECTION III PHYSICAL DATA

BOILING POINT (°F.) Resin will cure before boiling	N/A	SPECIFIC GRAVITY (H ₂ O=1)	~ 1.9
VAPOR PRESSURE (mm Hg.) at 25°C	< 1	PERCENT VOLATILE BY VOLUME (%) 10 min/325°F	3-9
VAPOR DENSITY (AIR=1)	> 1	EVAPORATION RATE (N BuAc :1)	< 1
SOLUBILITY IN WATER	Negligible		

APPEARANCE & ODOR Amber to black color, at ambient temp. a light formaldehyde odor.

SECTION IV FIRE & EXPLOSION HAZARD DATA

FLASH POINT (method used) Uncured material O.C. > 350°F	FLAMMABLE LIMITS	Let N/A	Uel N/A
EXTINGUISHING MEDIA CO ₂ , dry chemical foam, water fog			

SPECIAL FIRE FIGHTING PROCEDURES

Combustion will give off toxic products, use self-contained breathing apparatus.

UNUSUAL FIRE & EXPLOSION HAZARDS

Airborne dusts produced from grinding or cutting of the cured prepreg resin may ignite if exposed to an ignition source. Graphite fibers will conduct electricity, which, if allowed to get into electrical equipment, can cause malfunctions and fires.

ADAPTED FROM FORM OSHA-20

N/A = NOT APPLICABLE

IMPORTANT: SEE REVERSE SIDE FOR DISCLAIMER

BOE-C6-0189591

SECTION V HEALTH HAZARD DATA

INHALATION EXPOSURE LIMIT Organic vapor; recommend ACGIH TLV: 2 ppm (3 mg/m³) based on formaldehyde; Nuisance dust OSHA Standard PEL: 10 mg/m³

EFFECTS OF OVEREXPOSURE Dust and vapor are mild pulmonary and eye irritants. Long term breathing of the dusts can damage the lungs. Some workers may become sensitized from either breathing vapors from, or skin contact with the uncured resin. Vapors may cause asthmatic condition in sensitive workers, where there is poor ventilation. Contact dermatitis could result from repeated handling with unprotected skin. Ingestion, the material is considered to be of minimal toxicity.

EMERGENCY AND FIRST AID PROCEDURES Respiratory irritations and headaches-person should be moved to fresh air and referred to a physician. Eye contact - must be flushed immediately with large quantities of water, medical attention should be obtained without delay. Ingestion, dilute with milk or water, induce vomiting, call a physician. Skin irritation - remove person from the causative source, thoroughly wash with soap and water after contact. If irritation persists for several days, seek medical treatment from a physician competent in industrial health.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid) For the uncured resin, strong acids or alkalis, strong oxidizing agents.			
HAZARDOUS DECOMPOSITION PRODUCTS Phenol, methyl phenols, carbon monoxide, carbon dioxide, aldehydes			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Normal procedures for solid trash.

WASTE DISPOSAL METHOD Use a state or local agency approved land fill or incinerator. The cured material is not readily biodegradable and contains no significant percentage of material extractable in water so its effect on ground water in case of land fill disposal should be negligible.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type) Above the TLV: NIOSH approved for formaldehyde vapor and pneumoconiosis producing dusts.

VENTILATION	LOCAL EXHAUST for grinding and sawing	SPECIAL
	MECHANICAL (general) for lay up and curing rooms	

PROTECTIVE GLOVES Impervious rubber gloves
polyolefin or neoprene type

EYE PROTECTION Goggles for protection from dust in machining operation

OTHER PROTECTIVE EQUIPMENT

Long sleeve shirts and pants; recommend apron be worn for lay-up operations, wear clean clothes daily, resin contaminated clothes could promote dermatitis.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING Store the uncured prepreg at 40°F or less. Keep the uncured material away from sources of ignition. Wash hands before eating or smoking - DO NOT store food in work area.

Judgements as to the suitability of information herein for the purchaser's purposes are necessarily the purchaser's responsibility. Reasonable care has been taken in the preparation of this information, but FERRO EXTENDS NO WARRANTIES, MAKES NO REPRESENTATIONS AND ASSUMES NO RESPONSIBILITY AS TO ACCURACY OR SUITABILITY OF THIS INFORMATION FOR ANY PURCHASER'S USE OR FOR ANY CONSEQUENCE OF ITS USE.